

REMARKS

Applicants thank the Examiner for noting incorrectly numbered claims 40-63 and renumbering them 39-62, respectively. Applicants refer to the new claim numbers wherever used. Claims 12-18 and 36-62 have been amended. Support for the amendments may be found throughout the specification and in the examples and drawings, for example at page 1, lines 18-25 and page 5, line 27- page 6, line 22. No new matter has been added. Claims 12-18 and 36-62 are pending. Claims 12, 45, and 55 are independent.

Rejections Under 35 U.S.C. § 102(e)

Claims 12-18 and 36-62

Claims 12-18 and 36-62 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,423,551 to Weiss, *et al.* ("Weiss"). Claims 12, 45, and 55 are independent.

Applicants have discovered a population of nanocrystallites including a plurality of nanocrystallites each nanocrystallite including a nanocrystalline core including MTe, where M is Cd, Zn, Mg, or Hg, and an overcoating of a semiconductor material on the surface of the core. The plurality of the cores is monodisperse. See amended independent claims 12, 45 and 55.

Weiss describes a semiconductor nanocrystal as a core/shell configuration with a first semiconductor forming the core and a second semiconductor forming a shell around the core. See Weiss at col. 6, lines 21-27. Weiss does not describe a population of nanocrystallites, each with a core including MTe, where the plurality of the cores is monodisperse. In fact, Weiss does not discuss size distribution of MTe nanocrystals.

For at least this reason, independent claims 12, 45 and 55 and the claims that depend from them are not anticipated by Weiss. Applicants respectfully request reconsideration and withdrawal of this rejection.

Rejections Under 35 U.S.C. § 103(a)

Claims 12-18 and 36-62

Claims 12-18 and 36-62 have been rejected under 35 U.S.C. § 103(a) as being obvious over Weiss. See Office Action at page 3. Claims 12, 45, and 55 are independent.

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Applicants have discovered a population of nanocrystallites including a plurality of nanocrystallites each nanocrystallite including a nanocrystalline core including MTe, where M is Cd, Zn, Mg, or Hg, and an overcoating of a semiconductor material on the surface of the core. The plurality of the cores is monodisperse. See amended independent claims 12, 45 and 55.

As discussed above, Weiss describes a semiconductor nanocrystal as a core/shell configuration with a first semiconductor forming the core and a second semiconductor forming a shell around the core. See Weiss at col. 6, lines 21-27. However, Weiss does not describe or suggest a population of nanocrystallites, each with a core including MTe, where the plurality of the cores is monodisperse. More particularly, Weiss does not discuss size distribution of nanocrystals including MTe at all. Accordingly, Weiss does not suggest, teach, or motivate one skilled in the art to make or use a population of nanocrystals including MTe that are monodisperse.

For at least this reason, independent claims 12, 45, and 55 and the claims that depend from them are patentable over Weiss. Applicants respectfully request reconsideration and withdrawal of this rejection.

Attached is a marked-up version of the changes being made by the current amendment.

CONCLUSION

Applicants ask that all claims be allowed. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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Shailaja Shroff ^{Reg. No} 50,171 *for*
Harold H. Fox
Reg. No. 41,498

Fish & Richardson P.C.
1425 K Street, N.W.
11th Floor
Washington, DC 20005-3500
Telephone: (202) 783-5070
Facsimile: (202) 783-2331

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